THE VETERINARY RECORD

A Weekly Journal for the Profession.

Edited by William Hunting, F.R.C.V.S.

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Glanders and Mallein.

A report is just published of some experiments made for the Board of Agriculture which adds to our knowledge of glanders and mallein. Somewhat similar experiments have been made by the London County Council and by private veterinary surgeons, but those detailed in the report (and the appendix, which space prevents us from reproducing) place the matter on a firmer basis.

Two experiments were made; (1) in which reacting horses were confined in a shed with healthy horses for about a year; (2) in which horses that had reacted to mallein but ceased to react after a number of injections were confined with healthy horses. The report referring to experiment I. says "In view of the fact that in the above experiment only one of the originally healthy horses became infected in spite of their long continued close association with a number of reactors, we are of opinion that the danger of the disease being spread by apparently healthy reacting horses while at work is so slight that in practice it might be neglected."

Referring to the experiment with "ceased reactors" the report says—"This experiment therefore indicates that a horse that has ceased to react to mallein is incapable of spreading the infection of glanders. This conclusion, however, is subject to the qualification that there has been an interval of not less than two months between the last two mallein tests."

The qualification is necessary, as repeated doses of mallein may induce a temporary immunity to mallein injections, but this immunity does not exist after an interval of two months.

Now what bearing has this report upon proposed legislation against glanders? It would be a ridiculous waste of time and money if no practical result followed.

It will be remembered that the Departmental Committee which took evidence three years ago recommended that horses which formed part of infected studs should be treated as "suspicious" and be tested with mallein. To slaughter every horse that reacted to mallein would be a heavy expense, and an alternative has been suggested – to allow "reactors" to continue at work but to be stabled under supervision and more or less isolation. An objection to the latter course was theoretically evolved, and it was said — "Authorities will never permit glandered horses to work in the streets and public places." Of course this notion never had any real force, because such horses are now at work every day. This report silences the objection by showing that the risk from such horses may be safely neglected.

Nothing is now required to enable us to stamp out glanders speedily and economically except the power to use mallein and isolate reactors in their stable.

FRACTURE OF OS SUFFRAGINIS.

On January 14th, 1903, I was called to see pony, about 14 years old, lame on near fore leg. I found him going slightly lame but nothing definite to account for it except I thought there was a little fullness around near pastern. Had shoe removed and ordered warm bran poultice. On the following day had shoe put on and found him going better. Ordered him to be kept quiet until I saw him again, which I did on the 19th, when I found him going nearly sound. However, I ordered a little walking exercise for a day or two until the frost cleared when he could go to work without cogs in his shoes.

On January 22nd I had a message to see pony, as he was much lamer. I found him in great pain and unable to put near foot to ground. On careful examination found os suffraginis fractured, and advised slaughter. The pony was having a walk out for exercise on the afternoon of the 21st and suddenly without anything occurring to account for it he went dead lame and was brought to the stable on three legs.

The bone, which I have, is smashed into half-a-dozen or more pieces, the fractures being chiefly in a longitudinal or oblique direction.

The points of interest in this case are the absence of any history of accident, the slight lameness from the first which became slighter until separation took place.

Alfred Peele, F.R.C.V.S.

ABSTRACTS FROM FOREIGN JOURNALS.

An Infectious Disease of Poultry due to an Invisible Microbe.

A. Dubois observed at the Liege Bacteriological Institute a very deadly disease of poultry which is neither fowl cholera nor diphtheria, and which is probably due, as Centanni has discovered in Italy, and Lode and Grüber in Germany, to an invisible microbe. The materials studied were sent by a farmer who, after buying some Italian hens imported into Belgium, saw a veritable epizootic attack these as well as some indigenous fowls which were mixed with them. Out of 150 birds only about a score remained. There was nothing special about the symptoms. Intestinal irritation was very much less

marked than in fowl cholera; no false membranes were observed as in diphtheria. The contagium appeared to abound chiefly in the nasal and oral mucus. The *microscopical examinations* and *cultures* were always fruitless. Inoculations with a small quantity of blood or emulsion of liver of a dead bird into healthy fowls invariably killed, and the blood of these birds was virulent for other fowls. Filtration of an emulsion of liver from a fowl dead of the disease which was very virulent, through a Chamberland filter gave a filtrate that caused death when injected into healthy fowls.

There does not appear to be any doubt but that this is the same disease as described by Centanni under the name of "Avian Plague" and due, according to this observer, to an invisible microbe having the general characters of the microbes of the same group, notably those of bovine contagious pleuro-pneumonia, foot-and-mouth disease, sheep-pox, Cape horse-sickness, etc.—(*Société de Biologie*, Oct. 25th, 1902).

Erythematous Exfoliation of the Lips and Nostrils in the Horse.

Prof. Cadéac has had the opportunity of observing for several years and during summer, an affection which is characterised by inflammation of the lips, muzzle, nostrils, and inferior part of the Schneiderian membrane, and sometimes the buccal mucous membrane; it is always accompanied by a kind of cutaneous vesication, marked by exfoliation of the epidermis in flakes.

This disease resembles the vesicular erythema of the lips and nose determined by the *Blaps mortisaga*. However, Cadéac has never been able to verify the existence of this coleopt in the food of the affected animals. It is possible that the food had been contaminated at some time by the *Blaps mortisaga* or its irritating principles. The irritating liquid is a viscid gluey substance, secreted by the anal glands, and its vesicant properties have been clearly established by the observations and experiments of Bassi, who contaminated the food with these insects or rubbed the living Blaps on the skin and produced the disease. It commenced about 48 hours after the use of soiled food by an intense congestion of the buccal mucous membrane, lips, muzzle, nose, Schneiderian membrane, and sometimes around the eyes. After two or three days phlyctenæ appear, which become resorbed or burst and dry up towards the sixth or seventh day, and from this time they produce a superficial exfoliation of a brown or blackish colour. It is not a serious affection and recovery is spontaneous.—(*Journal de Méd. Vét. et de Zoot.*, September, 1902).

Treatment of Eczema of the Dog by Subcutaneous Injections of Artificial Serum.

M. Pécus of the Saint-Cyr Military School draws attention to the new treatment of eczema used with success in man by Dr. Tommasoli. It consists of subcutaneous injections of artificial serum.

A dog, aged six years, suffering from chronic eczema, failing to respond to the various other methods of treatment was radically cured by Pécus with a 7 per cent. solution of salt. The skin became supple, the hair grew with vigour, and for three years the dog has been in a perfect state of health.

Another dog was treated at once with large doses of artificial serum, and recovery was very rapid and permanent.—(*Journal de Méd. Vét. et de Zoot.*, October, 1902.

Verrucose Endo-carditis in a Pig Affected with Rouget (Swine Erysipelas.)

Professor Nocard brought a specimen of a heart shewing lesions of verrucose endocarditis from a pig that died within four days from swine erysipelas, before the notice of the Central Veterinary Society, Paris. The warty growths on the mitral valve were very large, dense, and friable, and projected into the auricle and contained the bacillus of rouget in great numbers. Bacillary endocarditis is frequent in the benign forms of swine erysipelas and it has a very slow course; it is very rare in the acute or malignant forms. The pig belonged to the piggery of the Alfort School. where rouget did not exist, and it is difficult to explain the source of infection. At the present time it is admitted that the swine erysipelas bacillus undergoes a saprophytic existence in some soils and some watercourses, and has various degrees of virulence; it is in all probability that the case mentioned by Nocard is due to the contamination of food collected in from an infected locality. These considerations show the insufficiency of sanitary measures and the great use of vaccination in the struggle against rouget.

M. A. Barrier thought that the bacilli of swine erysipelas which are frequent in the intestines of pigs in good health, may regain their virulence and cause the disease. Thus this might account for the isolated cases of rouget not arising from any contamination.

M. Nocard remarked that similar facts were observed in pneumonia, gangrenous septicæmia, tetanus, and charbon. Again, the pigs might possibly have become infected by eating the carcases of rats and mice, in which one nearly always finds a bacillus closely related to that of swine erysipelas which is only a variety of the same species.

Cattle Diseases in South Africa.

Professor Robert Koch has consented to go to South Africa to study the means of preventing diseases of cattle. The Chartered Company will bear the expense which is estimated at £10,000. Professor Koch will take with him two assistants who will each receive £1000 whereas he himself will be paid £6000 per annum. The Colonial Office proposed to send a British specialist but Rhodesia preferred to employ Professor Koch.—(*Gazette Médicale de Paris*).

H. G.

Corrections—Azoturia.— Mr. Squair writes:—"The words 'quiet pulse' (p. 463, line 8) should be *quick pulse*."

Spasm of Diaphragm.—Mr. H. Taylor writes:—"Eleven lines from end (p. 464) 'marked' should read *masked*."

ENORMOUS UDDER IN A COW.—By DR. SCHMIDT of Dresden.

Last year a cow was brought into the clinique of the Veterinary University for examination and treatment suffering from an affection of the udder. The cow was stated to have been dry during the last four weeks of pregnancy, and during the preceding lactation period there had been no considerable changes in the udder.

On closer examination it was found that the cow was of Prussian breed. middle-aged, general health normal, the udder showing extensive enlargement. This enlargement affected all four quarters of the udder equally, so that the lower portion of the udder at the end of the teats was only about four inches from the ground. On manipulation there was no special painfulness or evidence of inflammatory changes. On pressure a small quantity of sticky fluid emptied itself out of the teat. The lymphatic glands of the udder were slightly enlarged, and for the rest there was nothing specially noticeable. Oedema and even phlegmonous swelling was absent.

The diagnosis was hypertrophy of the udder in consequence of the near approach of parturition. As a therapy complete emptying of the organ by cautious milking was recommended before employing any medical treatment.

The udder however increased in size. On the day after parturition took place it rested by a great portion of its ventral surface on the ground. On this account the teats were bent at an angle alongside the udder. The external skin was stretched to its utmost; in numerous places in the subcutis solutions of continuity could be seen. The latter naturally occasioned rather considerable hæmorrhages. Inflammatory change of the substance of the organ itself was wanting even now. The suspensory of the udder is uninjured. The milk produced showed the character of colostrum, its quantity averaged about 16 litres ($3\frac{1}{2}$ gallons) a day. The general health of the cow normal but the swollen organ caused much discomfort by its weight. Every movement was anxiously avoided. Both thighs were almost fixed and the feet wide apart at the ground.

As treatment, after carefully washing the udder with a disinfectant some lead liniment was applied frequently.

The new born calf was put on to another cow.

After a few days the hyperæmia declined a little and hæmorrhages stopped. The defects in the skin are covered with scabs, which later from time to time fall off and leave superficial streaky scars.

The milk was examined microscopically and bacteriologically to ascertain whether it was fit to use. Neither tubercle bacilli, nor pus, nor inflammatory organisms were found. Inoculated animals remained alive. Nothing therefore could be said against using the milk as food, and so it appeared advisable to use the animal's milk provisionally and to waive slaughter.

In the ensuing weeks the swelling up of the udder declined considerably, but in spite of this the organ showed remarkable size after the lapse of $3\frac{1}{2}$ months.

During the winter milk production surely and steadily declined and the cow got into much better condition, and as the milk supply in January was only 3 litres a day the animal was sold for slaughter. The carcase of the cow was healthy throughout; the udder, except for a firmer consistency then usual, showed no abnormality. In the mouth of the udder in the subcutis, a fresh coagulum of blood as large as one's fist was situated. Microscopic examination of numerous sections of the milk gland from different places revealed normal tissue; the connective interstitial tissue seemed slightly enlarged (spread out) the lumina of the veins greatly increased.

The case described here appears very interesting to me because it may be taken pathologically as a great increase in size without inflammation or infection. That both these causes must be excluded is proved by the conditions during life and after death. It may be described as an abnormal filling with blood (plethora) at an etiological moment, as not infrequently occurs in internal organs and causes a condition of breaking down of the connective tissue scaffolding. Whether hyperæmic processes have conduced thereto cannot be certainly determined; disturbances of circulation are certainly not caused as the heart and milk vessels (*ven. pud ext*) were quite normal. On the contrary, the blood vessels in the interior of the udder did not appear to have performed their function properly; especially were the walls of the veins so little resistent and on account of the physiological hyperæmia arising previous to parturition more or less severe hæmorrhages occurred into the tissue. Mechanical injuries have the same effect; incautious clumsy milking causes swelling of the udder conjoined with a firmer consistence, and may lead to the animal having to be slaughtered, for there is little doubt that the flow of the blood into the subcutis of the udder occurred as the animal was being driven down-hill.—Ex. *Berliner Thierarzt Woch.*

G. M.

TUBERCULOSIS AFTER CASTRATION.

Pig in good condition. At seat of castration wounds two tumours circumscribed, hard, slightly painful, as big as two fists. Cicatrization of operation wound complete. After slaughter the swellings appeared to be a caseous mass of yellowish grey colour of lardaceous nature studded with numerous nodules. The inguinal glands were much enlarged and tubercular; miliary tuberculosis of intestines, and on the peritoneum numerous tubercular nodules as big as match heads. It is usual in large animals to anoint the castration wounds with oil, while saliva is used for male animals, probably this latter custom accounts for the appearance of the disease.—*Ber. Thier. Wochen.*

HÆMATOMYELIA.

A dog which had received a blow, emitted loud cries and showed an inability to move the hind legs. In 24 hours the paralysis had extended to the rectum and bladder. On account of this rapid spread Lessman thought he had a spinal hæmorrhage to deal with; he advised ice bags to the spine, absolute quiet, light diet, clysters of oil; and emptied the bladder with a catheter twice a day. Next day he ordered hot mustard baths of 5-10 minutes duration. On the 16th day the functions of the rectum and

bladder were restored and some power returning to the hind legs. After 30 days an electric current was substituted for the mustard baths, being applied twice a day, also cold douches. In the eighth week the dog could use the hind legs but the right was somewhat irregular in movement. Two years after there was a second attack, but the symptoms were not so severe.—*Berl. Thier. Woch.*

Basedow's Disease.

A pointer dog, 6-7 years old, in poor condition had a swelling as big as a baby's head at the point of the sternum, soft and pulsating, anæmic conjunctivæ with bilateral strabismus alike on both sides; fast intermittent small pulse; carotid pulse very strong; venous pulse apparent; systolic murmurs; increase of heart sounds, rapid respiration, acute vesicular murmurs; ascites; enlargement of the liver, occasional cough, temperature normal. The owner reported that the animal's appetite was variable, with occasional vomiting and diarrhœa; fits of vertigo occurring more frequently during the last three or four months; frequent tremors affecting the whole body. Lessman considered, following Nyobius idea in the pathogenesis of Basedow's disease, that the process commenced with a functional disturbance of the thyroid and believes in this case that this produced the alteration in the circulation by means of tricuspid insufficiency.—*Berliner Thierärzt. Woch.*

Red Eczema in the Dog.

According to Baer, red eczema is characterised by the following symptoms:—The hair becomes damp and sticks together, then a cutaneous scab markedly red, varying from the size of one's finger nail to that of the palm of the hand in a day or two. This is swollen and covered with a viscous material. The part is highly sensitive, the slightest touch produces great pain. In the centre of the patch the hair falls off, and at the circumference staring light coloured patches of hair. Recovery usually occurs in a month or so. The dermis dries, a dust forms, and isolated spots of regenerated epidermis, then a slight desquamation and renewal of the hair. During the various phases of the process the animal appears to maintain a normal health without any rise of temperature.

Eight per cent. of diseased dogs suffer from this disease which accounts for 36 per cent. of skin affections. Long haired dogs suffer most. The head is always affected, then the ears and jaws, spreading to the neck, breast, back, shoulders, loins and tail, legs rarely.

Microscopical examination of the exudate reveals the constant presence of micrococci, sometimes numerous, sometimes scarce, and occasionally a bacillus, but this appears to be accidental. The coccus grows in ordinary media but best in a preparation of dog's skin and agar, and Baer hopes to be able to demonstrate this coccus as the cause of the disease. Treatment is mainly 2 per cent. sol. creolin, zinc, lead, and tannic acid ointments, and finally a bath of 6 per cent. sol. sulphuret of potash.—*Schweitzer Archiv.*

F. E. P.

REPORT of the DEPARTMENTAL COMMITTEE APPOINTED by the BOARD OF AGRICULTURE

For the Purpose of conducting Experimental Investigations with regard to the Communicability of the infection of Glanders under certain conditions, and as to the Arresting and Curative Powers, if any, of Mallein repeatedly administered

Gentlemen,

In accordance with your Minute of the 12th of January, 1901, we have considered the questions therein referred to, and we now have the honour to submit the following report:—

We have carried out two sets of experiments, which had respectively the following objects:—

(1) To ascertain whether an apparently healthy horse which reacts to mallein (a "reactor") is capable of spreading the infection of glanders under ordinary circumstances.

(2) To ascertain whether an apparently healthy horse that has first reacted to mallein and subsequently ceased to react (a "ceased reactor") is capable of spreading the infection of glanders.

We regret that we were not able to carry on concurrently experiments bearing on the alleged curative influence of mallein, or on the disputed question whether inhalation or ingestion of the specific bacilli is the commoner method of infection.

I.—EXPERIMENTS WITH "REACTORS."

The general plan of these experiments was briefly as follows: In the first place we had to find a number of horses that had recently reacted to mallein, but which showed no external manifestation of glanders or any symptoms from which it could be inferred that they were affected with that disease. In the second place we had to obtain a number of horses free from glanders, in the sense that they appeared to be healthy and did not react to mallein when tested for the first time immediately before or after purchase for the purpose of the experiments. The necessary number of animals answering to these descriptions having been obtained, the two sets of horses were placed together. The building in which this enforced co-habitation was carried out was, at the time when it came under our control (January, 1901), entirely new and had never been used for horses. At the outset it was divided into stalls by swinging bales, but this arrangement of the interior was altered on the 1st of March, 1901, on which date the whole of the swinging bales and the other internal fittings were removed, so as to convert the building into what was simply a large rectangular shed. A number of troughs were fixed to the walls at a convenient height to serve as mangers, and a common water-trough was also provided. Into the stable as thus altered both sets of horses ("reactors" and healthy) were turned loose in order to afford the freest play to infection.

The experiments included the testing of the originally healthy horses with mallein after a period of exposure to infection in the experimental stable, and ultimately a post-mortem examination of all the horses, coupled with the application of cultural and inoculation tests to any lesions thus discovered, except those that were obviously not of a glanderous nature.

Although it would naturally have been of interest to ascertain how soon after exposure to infection any of the originally healthy animals became diseased, it was thought better not to test these horses frequently with

mallein lest it might be said that this had exerted an immunising or a curative effect.

The results of the post-mortem examination and of the cultural and inoculation tests applied to the lesions are stated in the records given in the Appendix. In every case, the post mortem examination extended to all the organs and lymphatic glands of the chest and abdomen, as well as to the mucous membrane of the nose, pharynx, and larynx, and to the submaxillary and pharyngeal glands

The cultural test which was applied to suspected lesions consisted in spreading some of the suspected material on the surface of sterilised slices of potato, subsequently incubating the tubes containing these for a week or more at the body temperature, and observing whether any of the characteristic growth of glanders bacilli made its appearance on the inoculated surface.

For the experimental inoculation tests (which were simultaneously carried out) guinea-pigs were employed, a small quantity of the suspected material being injected under the skin. In most of the cases the whole, or the greater number of the suspected lesions were cut out, and pounded in a sterile mortar with a small quantity of sterile water; part of the liquid was then spread on the surface of the slices of potato, and the remainder injected into guinea-pigs.

Although, as a rule, the nodules of glanders, especially when they occur in the lungs, have such distinctive characters to the naked eye that a tolerably certain diagnosis may be made without having resort to cultural or inoculation experiments, it cannot be pretended that that is also true in the case of the old lesions of glanders which are calcified or in a stage of retrogression. It therefore appeared to be desirable to apply the cultural and inoculation tests to all the discovered lesions that had even a remote resemblance to those of glanders. In the case of the healthy animals that had never reacted to mallein the lesions discovered were in no instance typical of glanders, and would, in most cases, have been pronounced "not glanderous" if the diagnosis had had to be based on the naked-eye appearances alone. On the other hand, when nodules were found in the lungs of horses that had reacted to mallein as a rule some or all of these had naked eye characters such as are usually possessed by glanders nodules. It will be observed, however, that in every case in which the post-mortem examination disclosed in the lungs or elsewhere lesions in the form of "nodules" these were tested.

The number of horses purchased for this experiment was 16, but two of these—"Miss Tempest" and "Merlyn"—were discharged from the stable a short time after admission, and therefore need not be further taken into account. The remaining 14 animals included six "reactors," and eight horses that were presumably healthy at the time when they were introduced into the experimental stable.

The following tabular statements will serve to show the date on which each animal was admitted to the experimental stable, and the date on which it was removed for slaughter:—

"REACTORS"

Name	Date of Admission	Date of Discharge	Period in Stable
	1901.		Weeks.
Dolly Grey	Jan. 24	Feb. 11, 1901	3
Martha	Jan. 24	Mar. 15, 1902	59
Miss Tempest	Jan. 24	Feb. 28, 1901	5
Miss Terry	Feb. 6	Sept. 28, 1901	33
Marion	Feb. 6	Mar. 18, 1902	57
Polly	Jan. 25	Mar. 12, 1902	59
Prince	Nov. 23	Mar. 18, 1902	16

HEALTHY ON ADMISSION.

Name	Date of Admission	Date of Discharge	Period in Stable
	1901.		Weeks.
Merlyn	Feb. 6	Feb. 12, 1901	1
Julia	Feb. 6	Feb. 27, 1902	55
Daisy	Feb. 27	Mar. 12, 1902	54
Gipsy	Feb. 8	June 3, 1901	16
Florence	Mar. 6	Mar. 15, 1902	53
Peggy	Feb. 27	Sept. 30, 1901	31
Patsy	Dec. 8	Mar. 20, 1902	15
Baby	Dec. 6	Mar. 21, 1902	15
Jonathan	Dec. 6	Mar. 21, 1902	15

Dealing in the first place with the "reactors," it will be observed from the appendix that one of these ("Dolly Grey") became clinically glandered shortly after admission and prior to the commencement of the experiment, and was therefore immediately destroyed; and that another (Miss Terry"), which was destroyed on account of vice on the 28th September, 1901, proved to be actively glandered on post-mortem examination, after having been about 34 weeks in the experimental stable. The remaining four "reactors" did not develop any clinical sign of glanders, and cultural and inoculation experiments failed to prove that the lesions found in them at the post-mortem examination contained living glanders bacilli.

The chief interest in this experiment attaches to the eight originally healthy horses. One of these animals ("Gipsy") was proved to be actively glandered when it was killed on the 3rd June, 1901, after it had been 16 weeks in the experimental stable. The remaining seven animals apparently escaped infection.

The fact that the mare "Gipsy" contracted glanders during her association with reacting horses in the experimental stable warrants an affirmative answer to the question which the experiment was designed to solve—that is to say, an apparently healthy horse which reacts to mallein must be considered capable of spreading the infection of glanders. On the other hand, the fact that seven of the healthy animals introduced into the experimental stable escaped infection is strong evidence that as a rule the infective power of horses that are only known to be glandered because they have recently reacted to mallein is very low.

We have not overlooked the possibility that the mare "Gipsy" owed her infection, not to any of the "reactors" while they were apparently healthy, but to "Dolly Grey" after that animal had suddenly developed clinical symptoms of glanders. As bearing on that point, it ought to be observed that at this time none of the horses were loose in the experimental stable, all of them being tied up between swinging bales; further, that "Dolly Grey" was removed for slaughter on the 11th February, at which time "Gipsy" had been only about 50 hours in the stable. Taking these facts into account, it seems to be more probable that "Gipsy" was infected from the mare "Miss Terry," or from some of the other "reactors." However, it seems to us that the practical conclusions to be drawn from the infection of the mare "Gipsy" are not seriously affected by the question whether that infection ought to be laid to the charge of one of the apparently healthy "reactors" or to the mare "Dolly Grey" after she became clinically glandered, because, owing to the suddenness with which a "reactor" may become clinically glandered, it is obvious that such an animal must in practice be considered capable of spreading the infection of glanders to healthy horses kept in the same stable.

Although such degrees of contact as are established between horses in the streets or elsewhere at work might be held to come under the head of "ordinary circumstances," we were unable to devise any experiments bearing directly on the risk of infection between "reactors" and healthy horses at work in the open air. At the same time, in view of the fact that in the above experiments only one of the originally healthy horses became infected in spite of their long continued close association with a number of "reactors," we are of opinion that the danger of the disease being spread by apparently healthy reacting horses while at work is so slight that in practice it might be neglected.

II.—EXPERIMENT WITH "CEASED REACTORS."

In this set of experiments horses that had on one or more occasions reacted distinctly to mallein, but had failed to react to later tests, were turned loose in the same stable with healthy horses. The stable in question was quite new and devoid of any internal fittings. For the purpose of the experiment it was provided with feeding troughs and a watering trough, as in the preceding set of experiments. The following tables show the date on which each animal was admitted to the experimental stable and the date on which it was removed for slaughter :—

"CEASED REACTORS."

Name.	Date of Admission.	Date of Discharge	Period in Stable.
	1901.		weeks.
Riley	Mar 1	Mar. 22, 1901	3.
Shamrock	Mar. 1	Feb. 15, 1902	50.
Doctor	Mar. 1	Jan. 13, 1902	46.
Eaton	Dec. 5	Mar. 6, 1902	13.
Buck	Dec. 5	Feb. 11, 1902	10.

HEALTHY ON ADMISSION

Name.	Date of Admission.	Date of Discharge.	Period in Stable.
	1901.	1902.	weeks.
Tubby	Mar. 1	Feb. 13	50.
Queen	Mar. 1	Feb. 15	50.
Bobs	Mar. 1	Mar. 8	53.
Jack	Mar. 1	Mar. 8	53.
Policeman	Mar. 1	Mar. 6	53.
Dodger	Mar. 1	Feb. 19	51.

The number of horses used in this set of experiments was 11, five of these being "ceased reactors," and the remaining six presumably healthy at the time of purchase.

At the conclusion of the experiments each of the animals was slaughtered and submitted to post-mortem examination, and, as in the first set of experiments, all the discovered lesions that had even the most distant resemblance to glanders nodules were submitted to cultural and inoculation tests.

The results of this experiment were in every case negative. During the course of the experiments none of the animals developed any clinical symptom of glanders, and no evidence of the presence of active glanderous disease was detected in any of the horses when they were killed.

This experiment therefore indicates that a horse that has ceased to react to mallein is incapable of spreading the infection of glanders. This conclusion, however, is subject to the qualification that there has been an interval of not less than two months between the last two mallein tests. In the horses that were used in this experiment the shortest period between the last two tests to which the animal had been subjected before it was purchased by the Committee was ten weeks, but in most of the cases it was considerably longer than that. We consider that in practice the mallein tests should not be repeated oftener than every three months when the object is to ascertain whether the animal has actually recovered from glanders.

In concluding this report we desire to express our appreciation of the services rendered by Mr. Berry, the Secretary to the Committee, during the time the experiments have been in progress. Mr. Berry has been most untiring in carrying out the clinical supervision of the experimental animals, and has displayed great professional and practical skill in the performance of his duties. He has thereby materially assisted in the conduct of this necessarily long inquiry.

We have the honour to be, Gentlemen,
Your obedient Servants,
(Signed) ALEXR. C. COPE.
J. MCFADYEAN.
WM. HUNTING.
JAMES MCI. MCCALL.

ARTHUR H. BERRY, *Sec.*
16th December, 1902.

Royal College of Veterinary Surgeons.

A special meeting of Council was summoned for Friday afternoon, January 23rd, for the purpose of confirming the undermentioned alteration, passed at a special meeting of Council held on January 9th :—

"To amend Rule 10 of the Regulations for the Walley Memorial Prize by the omission of the words 'four of which must be attempted.'"

The following members were present: Prof. M'Fadyean, Messrs. Barrett, Cope, Simpson, and Wragg; Mr. Thatcher (Solicitor) and Mr. A. W. Hill (Secretary).

Communications were received from Messrs. Carter, Dewar, Duck, Mason, Mettam, and Williams (President) regretting their inability to attend the meeting.

Seven members forming a quorum, and only five being present, no meeting was held.

THE CENTRAL VETERINARY MEDICAL SOCIETY.

An ordinary general meeting was held at 10 Red Lion Square, W.C., on Thursday, January 8th, 1903, Mr. W. Perryman, President, in the chair. There were present: Messrs. A. L. Butters, J. Rowe, W. Roots, S. H. Slocock, C. Sheather, P. S. Howard, H. W. Young, C. E. Wells, J. S. Price, H. A. MacCormack, F. O. L. Walpole, W. R. Clarke, P. W. D. Smith, W. Caudwell, G. Reddish, H. King, F. Duck, W. Hunting, W. Reekie, R. C. Irving, J. Macqueen, C. J. Humphrey, C. W. W. Brown, G. Sutton, H. H. Whitlamsmith, W. Pritchard, E. Lionel Stroud (hon. sec.), and five visitors.

The SECRETARY read the minutes of the last meeting, and they were signed by the President.

The SECRETARY read a letter from Mr. Chase, of the Veterinary Branch of the Department of Agriculture, Cape Town, in which he tendered his resignation as a member of the Society, he having left this country on obtaining the appointment in South Africa. The resignation was accepted with regret.

SPECIMENS.

Mr. SLOCOCK exhibited the incisors of a horse which he said had been traced to be 42½ years old. These were

in a good state of preservation. This horse had been well taken care of, having been allowed a paddock in which to run, and in which there was a shed erected for shelter, while at night the animal was placed in a loose-box. It was bought as a young horse 38 years ago, and warranted for harness or hunting. With a lot of care and attention it would have lived for a year or two longer, but it got to a stage when it suffered from constipation and required lifting now and again, therefore he (Mr. Slocock) considered it would be a kindness to give it a charge of shot, and this was done. When he first knew the horse 13 years ago it stood at 15·2 hands, but in later years he had shrunken down to 15 hands.

Election of Fellows.

The following gentlemen were unanimously elected Fellows of the Society :

Col. H. Thompson, C.B., Director-General, Army Veterinary Department.

Mr. Guy Sutton, M.R.C.V.S., 25 Farm St., Berkeley Square, W.

The Proposed Deputation to the London County Council *Re* "Glanders."

The Secretary read the report of the Council which mentioned the names of several gentlemen who were willing to act as a deputation.

Mr. Butters moved the adoption of the report ; this was seconded by Mr. MacCormack.

Mr. Price, after some remarks, moved as an amendment "That no action be taken in the matter for the present."

This was seconded by Mr. Reddish, and after some discussion, upon being put to the meeting, was carried.

NOTES ON THE USE OF OXYGEN IN THE TREATMENT OF RESPIRATORY DISEASES IN THE HORSE.

By A. L. Butters, M.R.C.V.S.

Mr. President and Gentlemen,—I am bringing this subject to your notice this evening, not because I have had much experience or am very familiar with its use, but partly on account of it being a new topic for discussion, and chiefly because I want to know more about it myself.

I might here remark if members only realised how much their professional knowledge was increased and improved by preparing a short paper for these meetings there would be no dearth of essayists.

The treatment of chest affections by inhalations is not a new method ; it is an old established practice to treat catarrhal and similar complaints with inhalations of steam, obtained by pouring boiling water over hay or other food. Sometimes the steam is medicated with various agents. The late Professor Williams recommended the construction of loose boxes with appliances by which the air could be warmed and kept at a temperature of about 70° F. for the treatment of diseases of the respiratory organs. I cannot, however, say with whom the idea originated of using oxygen for our patients, although I know it has been used for a number of years past. Some 10 or 12 years ago Mr. Faulkner, of Manchester, who was then using it, kindly sent me the address of the firm who supplied him with the gas. Some three or four years ago Mr. John Baxter, one of our late members, informed me he had used it pretty extensively and successfully. I regret he has left London, and that we shall not to-night have the benefit of his experience. There is an absence of any reference to it in our professional periodicals. I fancy there must be some literature concerning it in medical works. We occasionally see accounts in the daily press of eminent physicians having oxygen pumped into the bedrooms of patients of high degree, no doubt with a view to prolonging life. I hope, however, to learn something about the literature of the subject before the evening is out.

It is about two years since I first experimented with oxygen as a remedy for disease. It was on a three-parts bred bay gelding, six years old, suffering from laryngitis. The attack was acute and severe. The animal presented the usual symptoms, feverishness, rapid pulse, cough, sore throat, and noisy breathing. The animal rapidly got worse, and in a day or two the breathing became so much distressed and noisy that tracheotomy had to be performed. The horse was perspiring at the flanks and fighting for breath before the operation. This, however, afforded only partial relief ; the spasms appeared to affect the trachea as well as the larynx, and but little hope of recovery was entertained. As the animal was alive the following day I decided to try oxygen, so procured a cylinder of the gas and administered it for 10 or 15 minutes at a time, through the tube several times daily. The immediate effects of the inhalation were very satisfactory and encouraging. The respirations became less hurried and quieter, and the horse appeared altogether more cheerful. The inhalations were continued for two weeks, and in five weeks the horse was discharged cured ; the tube having been taken out of the neck and the wound allowed to heal. I regret to say that the notes I made at the time of this and the following case have been mislaid, so that my description lacks those accurate details of pulse, temperature, respirations, etc., which are so important in experiments.

The next case was also on a well bred horse suffering from pleurisy. This was also a bad case, the disease ran its course rapidly, hydro-thorax ensued, and recourse was had to tapping, a large quantity of fluid being evacuated. This gave great relief, but in my experience these cases more frequently die than recover, the dropsy again setting in. I determined to try oxygen inhalations. This animal was dosed with the gas in much the same manner as the previous case, but the result was quite different. The chest again became filled with fluid, and although tapped again on both sides and oxygen freely administered, death resulted.

As my notes are more of a suggestive than a conclusive character I offer no opinion on the value of oxygen as a curative agent ; I shall certainly try it again when the right class of case comes under my notice.

From subsequent conversations with other practitioners as well as from my own limited experience I conclude it is of no use in cases of pleurisy, but should prove useful in cases where tracheotomy has been performed, such as acute laryngitis, strangles, or purpura hæmorrhagica. I am informed it is of great value in cases of pneumonia, and of heat apoplexy. But we have of course to wait for these cases to turn up, hence the value of many workers and observers in the same field.

This, gentlemen, is about all the information I can give on the use of oxygen as a remedy in disease. I have not entered into the theory of the subject or tried to explain why it should prove more beneficial in some diseases than others, I leave that for those with more leisure. I regret, however, the poverty of the results I have laid before you. This is partly due to my not having met with cases giving me the opportunity for trying more experiments, and also to my being unexpectedly called upon to fill a gap. If however I have suggested anything that will prove useful to you I shall be satisfied with knowing that my efforts have not been wasted.

During the reading of the paper the Essayist shewed, with a cylinder of the gas, his method of administering it, and mentioned some improvements which he intended adopting in the future.

Discussion.

The President expressed the opinion that the adminis-

tration of the gas could be profitably employed to the patients of the members of the profession.

Mr. SHEATHER said he had used the gas for the past 12 years, and he came to the conclusion that he could not say he was in a position to advance any very sound information as to its permanent benefits. There could be no doubt that in cases of pneumonia and bronchitis it gave temporary relief. In one case after it had been administered for two minutes the respiratory organs quieted down and the membranes of the eye cleared considerably. If, however, one did not persist in administering it at short intervals, the ground that had been covered could not be maintained. If a human being suffered he would be able to lie in bed with comparative safety, but with regard to a horse, that had to be restored to health at the earliest moment in order to get into a condition to resume its work. With the administration of oxygen to a horse suffering from diseased lungs life could be maintained, and it could get slowly well. The gas no doubt allowed a diminished lung to have more power to carry on its work, and time and power were temporarily gained; but there remained the question whether oxygen given in the way described by Mr. Butters had a lasting beneficial effect as to the ultimate pathological condition of the lungs. He (Mr. Sheather) remembered the case of a brood mare suffering from purpura very badly. She was getting rapidly worse, the internal organs becoming involved, when it was deemed advisable to insert a very small tube in the throat and administer the gas, of which there were four cylinders twice the size of that exhibited that evening by Mr. Butters. A small stream of the gas was passed through the tracheotomy tube, and lasted continuously for about ten hours. The improvement of the mare was extraordinary. She was much better at the end of one hour, and in less than a fortnight was perfectly well again. Unfortunately, however, she was heavy in foal, and slipped the foal in the course of ten days. Still, she had been healthy ever since, and had had other foals. He would not say that the administration of the gas was not of transient benefit to bronchitis and pneumonia, but he did not consider there was anything gained beyond prolonging life slightly. Temporary relief was well known to result, but he was not satisfied that it was of such benefit as it was thought to be. The French were the first to use the oxygen treatment, especially in cases of attempted suicide by inhaling from charcoal fires. Then hospitals generally took it up. On the whole, however, it was difficult to find a satisfactory plan of administrating the gas. Certainly he believed the tracheotomy method was better than administration through the nostrils.

Professor MACQUEEN asked Mr. Butters what motive induced him to use oxygen? What inspired him to use oxygen in chest affections? Was it desired to increase the temperature and to increase the oxidation within the body, or to promote the action of bacilli within the lung? He would not say that it would do any of those things, but he required information. When anybody began to experiment with an element like oxygen to prolong the life of an individual whose will was anxiously waited for, one could understand the motive. But the real fact here was that one wanted to know what the object for using it was with regard to animals. What was the action of this particular agent? What effect had it upon the pulse, upon the temperature, and upon the respiration?

There being no further discussion,

Mr. BUTTERS replied. He said he anticipated to learn much more about this subject, and confessed that the discussion had been the means of his knowing more about the use of oxygen. He thanked Mr. Sheather for his kindly remarks and very useful information. That gentleman's experience coincided with his entirely, and he should adopt the method suggested in the next case which came under his care. He would certainly put a small tube down the trachea, and introduce the gas there. It must be agreed that the mode of inhalation through the nostrils caused a great waste of the gas. Undoubtedly the greatest benefit was the getting of the oxygen well into the tidal air. Certainly in a case of purpura where there was much swelling of the head and neck, the "tube" administration was the most beneficial. His own experience showed him that the most useful method was the one he adopted of administering the gas for 10 or 15 minutes at a time at short intervals. That seemed to produce the best effects: that was to say, the animal would be relieved. In fact it was surprising to find that if when administering the gas one left the animal for a few minutes and then came back, one would hardly think it was the same patient. In one case, however, there was only a temporary rally; afterwards the disease seemed to progress in much the same way, and eventually the animal died. In this case he might say that he did not insert the tube in the trachea, but introduced it up the nostril. Whether that had any different effect he did not know. He desired to thank Mr. Sheather for the interesting information he had given as to the origin of the use of oxygen to the respiratory organs. He thought the profession had a very fair field before them in this matter, for they would certainly be able to experiment in various diseases in animals, and so enable the medical profession to copy them in their treatment of human beings. He might further say that one of the members of the Society, Mr. Smith, who had just left the room, informed him that he frequently used the gas on animals, and with very good results, especially in cases of pneumonia and congestion of the lungs. Mr. Smith's mode of administering it was through a muzzle which was probably originally intended for chloroform. He had a long indiarubber tube, one end of which he fastened to the cylinder and the other end to the muzzle. Then he turned on the gas and allowed it to remain on for some hours. It was of course only by practical experience that they got to know the advantages of using the gas in the way described. With regard to Professor Macqueen's remarks, they were certainly very pithy and to the point, and in answer to them he might say that he did not study this question from the theoretical point of view. He adopted it because he heard from certain practitioners that it was very useful, and that he ought to try it. It commended itself to one's common knowledge that in diseases of the respiratory organs the best thing for the patients was a supply of pure air. Therefore if the ordinary air was made a little purer and stronger, good would be done to the patient. He did not reason the thing out, but went on the basis that when a man was hungry he ate food and his hunger was appeased without his knowing anything about the processes of digestion or assimilation. He thanked the members for their kind attention to his remarks.

Prof. PRITCHARD, in moving a vote of thanks to Mr. Butters, said that gentleman had brought before them a most interesting subject. He, himself, had not joined in the discussion, but was, as he had told the President, only holding a listening brief. Still, he had been very much interested in what he had heard, and particularly the remarks that fell from Mr. Sheather. He gathered that Mr. Sheather had used this remedy somewhat extensively, and although he had not discovered the benefit which he would have liked to find in some cases he had given the members to understand that he looked upon the use of the gas certainly as a useful remedial measure in certain diseases. If Mr. Sheather believed in the use of oxygen—and he had no reason to doubt it—they had learned something that evening.

Mr. HUMPHREYS seconded the motion which was carried unanimously.

Mr. BUTTERS briefly responded.

The SECRETARY (Mr. Stroud) moved a vote of thanks to Mr. Slocock for bringing before them the interesting case which he had. There was always the item "Morbid specimens" placed upon the agenda, and he trusted that members would not forget that, but would bring up as many as they could.

Mr. PRICE seconded the motion which was carried unanimously, and Mr. Slocock responded.

On the motion of Mr. Reekie, seconded by Mr. Rouse, a vote of thanks was passed to the President, and the proceedings terminated.

SOUTH DURHAM AND NORTH YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

At the quarterly meeting held at the North Eastern Hotel, Darlington, on December 5th, the President (Mr. E. H. Pratt, of Northallerton), presided. The members present were Messrs. Blackburn, Barnard Castle; Snaith, Bishop Auckland; Taylor, Darlington; Dobbing, Darlington; Peele, West Hartlepool; Hill, Darlington; with the Hon. Secretary, Mr. W. Awde, of Stockton.

On the motion of Mr. Peele, seconded by Mr. Dobbing, the minutes of the previous meeting were agreed to.

THE PROFESSION AND PARLIAMENT.

The HON. SEC. said he had forwarded a copy of the resolution that was passed at the previous meeting with reference to a member of the profession being sent to Parliament, so as to keep the public enlightened on certain matters, to the Royal College of Veterinary Surgeons, and he had received a reply acknowledging the same from the Secretary.

The HON. SEC. said he had also written to the Veterinary Medical Association for the Eastern Counties expressing sympathy with that Association in the efforts they were making to get the profession represented in Parliament.

THE PROFESSION AND THE WAR OFFICE.

The HON. SEC. also stated that he had written to the War Office, as directed, supporting the appeal of the Royal College of Veterinary Surgeons, that the profession should be treated on an equality with the medical profession by the War Office. To that he had received a reply "acknowledging the receipt of the letter which shall receive attention."

THE NORTH RIDING COUNTY COUNCIL.

Reference was made by the Secretary to the representation made to the North Riding and Durham County Council asking for better terms in cases where the Council's officers called in the assistance of veterinary surgeons. The North Riding Council had now passed a resolution making an allowance of 5s. an hour for the first hour and 2s. 6d. for each subsequent hour, with an allowance for travelling of 1s. per mile one way and third class railway fare where it was not necessary to drive. He had not yet heard from the Durham County Council.

Mr. SNAITH remarked that it was satisfactory to have accomplished a little.

The SECRETARY said he had received a formal acknowledgment from the Durham County Council, which stated that the matter would be brought before the Committee on the 27th October. The result he had not heard.

NOTES ON INTERESTING CASES.

Mr. SNAITH said that on November 24th last year he was called to see a heavy cart mare, the property of a small farmer, which was kept for breeding purposes. She had been lame for three or four days. On this particular evening a man went out at dusk and found the mare down. He could not say whether she had fallen down or whether she was rolling. She was lame in the off hind leg. He (Mr. Snaith) was called in, and after careful examination found no definite cause for her lameness. He administered a dose of physic and prescribed a lotion for the leg. On December 3rd he saw her again but there was no improvement, and the legs were swelling. He gave medicine accordingly but on the 12th she was no better. She was supposed to be in foal, and on December 20th he slung her as she was in so much pain. She was blistered round the ankle, He had a suspicion there was a fractured navicular bone. On the 31st they decided to have the animal destroyed and he arranged with the slaughterer to go next day. However, she died during the night. The diagnosis was not confirmed because there was no fracture, but there was distinct ulceration of the navicular bone.

The next case was one of a tradesman's horse used for a light grocery cart. He saw it on July 14th. It had been kicked in the fetlock and had travelled from Wolsingham to Bishop Auckland, where he saw her, and on examination he found a small wound. He saw her again on the 21st and 23rd. She was lame, and there was swelling, and on the latter date he removed her to his place and put her in slings. He suspected fracture without displacement, and owing to the wound discharging a lot of blood he was unable to his own satisfaction to bandage the leg. It was one of those horses you couldn't get to rest comfortably in the slings, for she always had her four legs together, hanging with all her weight on the abdomen. On the 3rd August, owing to difficulty in bandaging, a blister was applied, and on August 13th displacement was obvious, and they had the horse destroyed. The specimen produced would show them the nature of the fracture. The point of interest was the question when the displacement took place, because the horse travelled ten miles four days after the kick was given. When first he saw it there was no evidence of displacement.

His next case was one of a heavy cart horse used by a co-operative stores. He saw the animal on March 14th, and owing to the fact that it was getting slow and had done ten year's service they decided to replace it. The horse was not lame and there was no reason to be in a hurry. On June 4th it was sold by tender, but it was determined not to leave the place. He was called in to see it and found it had received a kick on the lower part of the upper third of the tibia. The animal was very lame, and there was considerable swelling round the small punctured wound, which was not deep. The horse was treated with lotion. It improved a little and was ultimately turned out into the field and a blister applied. It was sold by tender once more on the 26th, but the animal didn't mean to leave, for the following day a message was sent to the horsekeeper that the animal was lying in the field. He (Mr. Snaith) didn't see the horse, but he was told that the tibia was shattered all to pieces, and the animal was destroyed.

His last case related to a cow, to which he paid a casual visit on October 30th. It was a milk cow, and on examination he found she had a large swelling about the size of two fists just about the position of the second lumbar vertebra. It was a swelling which one would naturally think was a tumour. It was not hard, one could make a decided impression on it with the finger. He found the most dependent part of it and introduced a fine probe. He didn't make a big opening, and as nothing flowed freely he introduced a trocar and pushed it well home. Immediately a spurt of blood came out with so much force that it cleared the cow's back and flowed for five minutes. It was bright scarlet blood, but the swelling did not diminish. He took the trocar out and promised to call as he came back, which he did and applied some dressing. The swelling then had considera-

bly enlarged. On November 7th he found the swelling a little larger than when he first saw her, but of much the same character. December 4th, the swelling was much the same. He had given embrocation to rub in. The man asked him what he thought the swelling was, and he replied a ruptured blood vessel. This the farmer would not accept, but he (Mr. Snaith) assured him the first time he was there that it was. The farmer then said he had been talking to a butcher who said he had had one or two cows with similar swellings on the back. He had found it was caused by the bones on the back not meeting naturally.

Mr. HILL read notes of a case of poisoning by *Ranunculus acris*. On the 23rd July of that year he received an urgent message to attend a yearling blood filly which had been found unable to rise. He found her lying on her broadside in the field. Pulse slow, small, and irregular. Temp. 98. 24th.—Temp. cold, skin moist, limbs flaccid, no reaction from the prick of a pin, involuntary diarrhœa, with a very fœtid odour. The animal could not be induced to rise, but while drenching her she plunged and got on to her feet. With a great amount of difficulty and staggering gait they got her into a loose box in close promimity. He diagnosed gastric mischief acting reflexly on the nervous system and gave stimulants with small doses of chlorodyne. The following morning she was much improved, her pulse being stronger, temp. normal, and movements much better. She drank a little linseed tea and ate a bran mash. Late in the afternoon, greatly to their surprise, she was found dead in the box. He made a post-mortem and found the stomach packed with food of a very coarse nature and thousands of seeds of some plant. The mucous coat was much thickened and inflamed and of a very dark red colour, evidently due to some irritant. All the other organs of the body were perfectly healthy. He found the seeds on comparing them to belong to the buttercups, ranunculus acris, an irritant plant of the order ranunculacea. The summer being very dry there was a great abundance of this buttercup, and the filly had evidently eaten with fatal result.

Eversion of the Uterus with Ruptured Wall.—Two cases occurred in shorthorn cows. One in February and the other in August of this year. Both belonged to the same owner, and in one the rupture was nine inches long and in the other six inches. The cause of the rupture was believed to be due to the cow in the next stall treading on the everted organ, as two of the cotyledons were also removed. They placed the organ on a clean sack, previously saturated with a sol. of Izal, removed the placenta which was attached, and thoroughly cleansed the uterus with a sol. of chinosol, then sutured the rent in the uterine wall with a continued suture of catgut, and returned the organs in the usual way. The recovery in both cases was rapid and most satisfactory, clamps being removed about the third day.

Punctured wound in abdomen of mare with bowels protruded.—Subject a bay mare the property of a farmer. He was told that while at plough the mare in turning round at the end suddenly backed and fell on top of the beam of the plough just over the stem of the wheel. When the mare got up the farmer found that some of the bowels were protruding from the wound. The farmer immediately put his flat hand on the bowels and with a little difficulty pressed them back and had the mare led away home and placed in a loose box. When he (Mr. Hill) arrived he found the mare in the box looking fairly comfortable. On examination just in front of the umbilicus he found a punctured wound which would admit about four fingers, with peculiar sucking of air similar to that experienced in castration. Dropping from the wound was a milky fluid, and there had practically been no hæmorrhage. After thoroughly asepticizing the wound with a solution of chinosol he sutured the peritoneum and muscular tissue with catgut, and then the skin with fine tape suture, then applied boracic wool and carbolic tow pads kept over the wound with a very broad bandage cut from a linen sheet, bound round and round the body. He had the mare racked up so that she could not lie down, gave her a hypodermic injection of morphia and left. The mare never looked behind her, and in a fortnight she was turned out to grass and the farmer subsequently sold her.

Milk Fever.—Since January of this year he had had fifteen cases of milk fever, fourteen of which he had treated by Schmidt's method. The subjects were principally shorthorns, occurring in both young and old cows, from a few hours to, in one case, four days after calving; generally from twelve to twenty-four hours. They were all in the comatose stage, or developed into it before or during treatment. His mode of treatment was to wash the udder thoroughly with a solution of chinosol and inject into each gland about ℥ss. of pot. iodide in ℥iv. of warm water which had previously been boiled. The udder was well kneaded to stimulate absorption. In some of his recent cases he had inflated the gland with air afterwards and found a much quicker result. As a rule they get up from four to twenty-four hours or gain consciousness in that time. When thoroughly conscious he gave stimulants and nerve tonics, but on no consideration left any medicine to be given until the animals could drink their gruel freely. Of the 14 cases 12 recovered and two died. The two cows that died never regained consciousness, and in his opinion died of heart failure. That was the only treatment adopted, except the passing of the catheter, good nursing, and in some cases the application of strong liniment to the back when they had not regained their feet in 24 hours. With regard to the fifteenth case the cow was in a comatose condition when he saw her first, and did not look a very promising patient. As something had gone wrong with his syringe he could not inject the udder, so to do something, having his enema syringe in his trap he injected a solution of chinosol in hot water into the uterus, and in twelve hours she regained her feet and made a good recovery. He now wondered whether it would not be better to treat milk fever by the uterus instead of the mammary gland.

Hysteria.—Subject, a cow, seven days after calving. Message sent was that the cow was mad. On his arrival he found the found the cow tied up in a stall and she would not allow anyone to approach her. The attendant informed him that she had quitted her afterbirth alright but that it was a a very small one. On examining the uterus he found the os almost closed. Working on the theory that some of the placenta might be left and decomposing in the uterus he washed out the uterus with about a gallon of hot water and 4 × 15 gr. pellets of chinosol. As medicine could not then be given with safety he promised to look back and administer some drug hypodermically. He saw her four hours afterwards and to his surprise the cow was practically in a normal condition and required no further attention.

Sabulous matter in the Bladder of a Horse.—The specimen which he had brought for their inspection was a sabulous matter taken from a huge piece weighing two stones, found in the bladder of a cart gelding after death. The horse was a very old one, and known to him for about 12 years previous to coming into the possession of his last owner, who having bought but a few months was surprised one day to find him dead in the stable. During life he was to all intents and purposes perfectly healthy. The bladder wall was ruptured and urine found in the abdominal cavity.

Intussusception of the Bowel in a Dog.—Mr. Hill said his excuse for bringing this before them was what appeared to him to be a most valuable diagnostic symptom, viz., the position the dog placed himself in. During last summer he had three cases and the symptoms were identical in all, and unfortunately

for the dogs the condition was verified by post-mortem. His great diagnostic symptom was that the dog would lie on the rig of his back continually for an hour together, and in this position he seemed perfectly at ease and free from pain. This combined with the other symptom of vomition with the peculiar odour was quite sufficient to give some grounds for this diagnosis, which he felt in the very early stages could be relieved by operation. In his third case he was waiting for the owner's consent to operate when to his annoyance the dog departed.

Mr. DOBBING, invited by the President to comment on the papers, said: With regard to the injecting of the uterus it was certainly worth a trial in cases of milk fever. Mr. Hill's record in milk fever cases he thought a very successful one. Both papers they had listened to were highly interesting and just of the kind they needed.

He was called at about half-past ten one night to see a mare that had evidently been cast in the stall. She couldn't get up, and though he tried her at first without slings they had eventually to be resorted to. When they got her up he found there was a bulging swelling in the neck. It was nearly two o'clock when they got her up, and they left her in the slings and had her well rubbed. He tried to fix a splint to her neck but couldn't get it to remain in position. They demurred to slaughtering her, and she had so far recovered as to be out of the slings, and she could now trot up and down the yard. Evidently this was a case of partial dislocation of the cervical vertebræ.

In cases of milk fever he always adopted Schmidt's treatment and with more success than any other treatment he had seen adopted.

Mr. PEELE said he thought the case mentioned by Mr. Snaith, of the mare with the ulcerated navicular bone, was very interesting and curious. They often came across cases of fracture where a bone had been splintered and there was a long interval before separation took place. They certainly got more successes with Schmidt's treatment for milk fever, and he had never known any ill effects. He remembered a similar case of hysteria to that which had been referred to. He thought he could get something into her and gave her a dose of chloral and she was all right afterwards. On one occasion he was called to see a hunter that had had a blow on the inner side of hind fetlock. The groom blistered the fetlock and he was laid by during the summer and was apparently going on all right when he had an attack of lymphangitis. The horse got over that, and when he was put into exercise this season there was a little thickening of the fetlock, and then followed another attack of lymphangitis The horse subsequently had another attack and he had hardly got over this when an abscess formed on the inside of the fetlock, and burst. He thought perhaps something had been left in after the blow, but at any rate it came away with the abscess.

Mr. TAYLOR said with reference to the fractured bone case which had been mentioned a horse could sometimes walk a long way after fracturing a bone without displacement. He knew a case of a mare that had been out hunting all day and at night about twelve o'clock she was very lame, in fact on three legs. She couldn't put any weight on her near hind leg at all. He went on the following day and could not diagnose the fracture; and she was kept in slings for three weeks, and eventually destroyed. He then found that a piece had been knocked off the lower part of the femur and the stifle joint was in an awful mess, there being ulceration of the articular surface. He remembered a case of a dog which was shot in the thigh. This case resembling that mentioned by Mr. Snaith of the swelling on cow's back. A week afterwards it was brought to his surgery and there was a swelling all round the thigh and serum oozing out. He opened it carefully and out came a lot of clotted blood, and then afterwards came scarlet blood, and before they could do anything the dog simply bled to death. Thus for a week they got the scarlet blood after the accident. As regards milk fever he hated pot. iodide. Mr. Dobbing and himself had a case last summer that looked like one of those cases that might go into milk fever. He injected her as usual, and she was never unconscious. She was up once or twice during the night, and next morning she was doing spendidly. The next day she was standing with an arched back and moving round the box a pitiable object. Eventually there was mammitis of the whole gland. The pot. iodide did the mischief there. He took every precaution, so that there was no fear of anything introduced. Since then he had used chinosol with always good results. He had found that they got far more success from Schmidt's treatment than from the old treatment.

He had an interesting accident case the other day. An old body was driving a trap along the road and she was met by a man driving a pony. The pony took fright just as they were passing and the shaft of the other trap went right between the point of the shoulder and the body. They walked the horse about a couple of hundred yards to the farm, and he went there and found the horse blowing very heavily indeed and in a complete state of shock. There was a small wound where you could get your finger in, and there had been no bleeding, so he felt sure it must have gone in some distance. He opened it out a little and syringed the wound well out and the usual treatment was adopted. Next day the pony had stopped trembling and was fairly comfortable, though the pulse was very bad. The next day it was much about the same, but the wound never looked healthy, and the animal died the following day. He made a post-mortem and found the shaft had gone in quite a foot and a half, and when it got as far as it could go it turned and broke two ribs and went into the thorax, puncturing the lung, and the cavity on the side of the chest was full of clotted blood.

Mr. BLACKBURN said he had a case like the first mentioned by Mr. Snaith, but there was no accident previous. From what he could remember the mare was lame and the owner sought the advice of a neighbouring farmer, who advised him not to bother until he could tell where the trouble was. She was distinctly lame on the hind leg, but the owner could not tell where. This went on until he (Mr. Blackburn) was asked to see the mare, and it was difficult then to tell where she was lame, though he gave it as his opinion that she was lame in the foot. In a few days she became so lame in the other leg that she had to be put in the slings and she died there. In this case the navicular bone was the same as Mr. Snaith had described. With regard to the diagnostic symptoms of intussusception of the bowels advanced by Mr. Hill, he had noticed in a fox terrier of his own where it rested on the chest and put its fore legs out. He had two and they both died, and there was quite a lengthy intussusception, thus the symptoms he noticed were opposed to those of Mr. Hill.

Mr. AWDE remarked that cases where you got fracture of the bone with no displacement were fairly common, and you then find some days afterwards that the bone has been displaced, and it was often through the ignorance and stupidity of the owner of the animal that one's action was defeated. One case he remembered of fracture where a man came and asked him to go to a place about three miles away to see a mare that had fallen lame. The mare took an hour to get to his house, which was about half a mile away. On examining the animal he found something wrong with the tibia. There was a little wound on the inside and very little swelling to see, but he concluded the bone was fractured. The old farmer thought he was clever and knew better than that,

and he refused to have the animal in the slings. On going past the place a week afterwards he thought he would go and see how the mare was faring and he then found she was in slings and the leg dangling. Another man had been called in to see it, as the old man was very disgusted when he found there was displacement, but the animal subsequently died. With regard to the case of injury to the back to which reference had been made, he remembered a horse developing a sort of swelling on the inside of the thigh. It was like a case of lymphangitis at first, but ultimately fluctuated like an abscess. On opening it, however, he had to deal with a ruptured blood vessel, and the drain on the system was so great that he did no good. A similar case happened to a foal from the same mare afterwards. With regard to milk fever he found Schmidt's treatment the most successful. He didn't use pot. iodide, but chinosol.

There were two cases he would like to mention. A fortnight previously a man called on him at midnight to go to a farm about six miles away to see a cow which had been calved a week. The man said she was blowing very bad, and when he got there he found it was a brain case. The cow was laid on the floor, she was heaving a good deal, and there were the usual symptoms of a brain case. It seemed to be excitability of the nerves, for the blowing was only secondary. He administered purgative and sedative medicine and cold wet cloths to head. Next day there was still some head trouble, but was easier. She was a deep milker, and the following day he found the head symptoms relieved after giving her sedatives. The bowels had begun to act, but she kept the floor for two or three days. On the Sunday she got up for the first time, and then laid from the Sunday till the Tuesday before she got up again. On the Saturday of the week following he discharged her, she then being all right.

The other case was one of hysteria in a yearling hunter mare. When she was a foal she was attacked with distemper and she had 40 or 50 abscesses opened. It took the strangles form. She recovered, but the following year she developed hysteria. When approached she struck out with her fore feet and fell over on her side. The only thing he could find post-mortem was enlargement of the ovaries.

About a fortnight previously he was called to see a pony that had been off its food two or three days. On examination he found the first molar tooth was down nearly an inch lower than the others and there was not a corresponding tooth on the other side. He took the tooth shears belonging to the Association and the "Revelation" mouth gag and removed it standing, and the pony went on all right.

Undiscovered Cause of Death of Sheep.

Mr. Blackburn said that about six weeks ago he got a message to go and see some sheep supposed to have been poisoned by pills—some of which he produced—which had been given to them two days before. On arrival he found that there were 30 black faced lambs of that year, recently brought down from the moors, and that the owner had given to each of them a pill made by a chemist in Penrith for the cure of braxy. He understood the pills had a very large sale in Cumberland and Westmoreland. The lambs were housed on the Wednesday evening, according to instructions on the pill box, and each one received a pill the following morning. On the Friday seven were found dead in the pasture and other three were amiss. He was unable to get to the farm until late on the Saturday evening. He had then to examine his patients in a field away from the farm with the aid of a stable lamp. He found one out of the three could just walk a yard or two and seemed to drag its hind legs, and had a good deal of mucus and blood sticking about the nose. The temp. was 104 F. He had two of the dead lambs picked up, brought them home with him and made a post-mortem the following day. His result of the post-mortem was as follows:—"A good deal of blood-stained froth about the nose and mouth, and on moving the carcase dark semi fluid ran from both the nose and mouth. The abdomens were distended with gas and had a very bad smell. The wool came out easily and there was extensive emphysema in the tissues, including the muscles. This was mostly confined to a hind leg or both forelegs and neck. Subcutaneous hæmorrhages very numerous, and some large extravasations. The stomachs were full of food, the endothelial lining peeling off with the food, but there was no sign of any gastritis or enteritis, the spleen was congested. The most marked changes were in the thorax, which contained about half a pint of blood stained fluid. The heart and lungs were engorged with blood, and the tissues from the chest right up the neck were simply one black mass. There was no subserous hæmorrhage as one gets in anthrax. After making the post-mortem he could not think that the case was one of poisoning, seeing there was nothing in the stomachs and bowels, but that it was either black-quarter, braxy, or anthrax. He examined the blood several times during the day but the anthrax bacillus was not found. He also sent part of the spleen and blood to Professor Dewar, who reported to him through Dr. Leighton that he was inclined to think that it was anthrax. He afterwards made a cultivation but got no definite growth. Two days later he visited the farm again and found that the other three lambs were dead, ten in all. He made another post mortem on one of them and found the same condition as in the other two. He also had one packed up and sent to Professor Dewar and he received a letter from the Professor and a report from Dr. Leighton, in much the same terms as Professor Dewar's first letter. The owner was quite sure and still is, that the lambs were poisoned by the pills. Luckily he had three left and he sent them to Dr. Aitken for analysis and he reported as follows:—"Analysis of sample of pills received from Mr. Blackburn, 24th October, I have made a careful search for poisons in the above and find no trace of any poison, either mineral or alkaloid.—Signed, A. P. Aitken." Three questions he (Mr. Blackburn) thought might be asked—Was the case black-quarter or braxy, and the dosing with the pills just a coincidence?

EASTERN COUNTIES VETERINARY MEDICAL SOCIETY

The autumn meeting of the Eastern Counties' Veterinary Medical Society was held at the Royal Hotel, Norwich, on Friday, November 28th. The President, Mr. John Pollock, F.R.C.V.S., occupied the chair, and the following members were present: Messrs. J. D. Overed, Blofield; T. E. Auger, Wymondham; W. Shipley, junr., F.R.C.V.S., Yarmouth; W. M. Reeman, Bury St. Edmund's; J. Barr, Acle; F. B. O. Taylor, Weston; W. F. Howes, Norwich; T. E. Barcham, North Walsham; J. Buckingham, Harleston; and Henry P. Standley, Wymondham, Hon. Sec.

Letters regretting inability to attend were received from Messrs. C. Nesling, Framlingham; R. Howard, Thetford; P. Turner, Ixworth; F. M. Wallis, Halstead; P. J. Mullane, Bungay; J. T. Thurston, Fressingfield; T. G. Heatley, Woodbridge; Prof. Hobday, London; W. Bower, East Rudham; G. Hunting, Stalham; J. Cleveland, Bungay; Prof. Pritchard, London; and S. Smith, Lowestoft.

The President said that at the outset he had to express regret that their autumn meeting was not held at Yarmouth as had been anticipated. When at the National meeting he was favoured with promises by one or two friends to address them, but as time went on other engagements prevented them coming. At least one

their members came forward and volunteered to read a paper.

The President then moved the election of Mr. G. Mayall, Norwich, as a member. Mr. W. Shipley seconded, and this was carried.

Mr. F. B. O. Taylor nominated for election Mr. John Porrett, M.R.C.V.S., Loddon. Mr. T. E. Auger seconded and the nomination was accepted.

Parliamentary Representation.

The Hon. Sec. said he sent their resolution to the Council of the Royal College and to other associations as directed and had received replies from South Durham and North Yorkshire and Lincolnshire Associations and the Council. He regretted the action Prof. M'Fadyean had taken, and thought their resolution should not be allowed to lie on the table but that further action be taken.

Mr. J. D. Overed said they ought to be represented in the House of Commons, directly if possible by a member of the Council. They had a gentleman able and willing to represent them and he regretted the line Prof. M'Fadyean, who was so eminent in the profession, had taken. He was directly opposed to the Professor's views, and hoped the matter would not be allowed to drop. He moved "That the members of the Eastern Counties Veterinary Medical Society urge respectfully upon the members of the Council of the Royal College the desirability of continuing the effort to secure an eligible candidate for Parliament with the view of obtaining more direct representation of the veterinary profession in the House of Commons." It did not matter to them whether a man went as a Radical or Conservative so long as he was acquainted with the needs of the profession and fearlessly stood up against such lies as had been propagated in the House of Commons, where there was nobody to contradict them.

Mr. Shipley referred to the difficulties in the way as they presented themselves in the course of the Council discussion.

The resolution was then carried, Mr. W. F. Howes seconding.

Victoria Benevolent Fund.

The Hon. Sec. read a letter under date of June last from Mr. W. F. Barrett in reference to the special effort to raise £500 for this fund.

Mr. Shipley said he was glad to announce that this amount had been raised and he thanked the members for the generous manner in which they had responded to his appeal by means of which £90 had been raised in the Eastern Counties completing the £500 required. Their Society had always been an annual subscriber to the Fund. He hoped that all who were not annual subscribers would become so, as the Fund was doing much good for the widows and orphans of poor veterinary surgeons. The National Benevolent and Defence Society they should also subscribe to. It was a magnificent institution as they had seen by a recent case at Norwich, where all the worry and expense of fighting a case had been taken off the shoulders of one of their members.

The Hon. Sec. read a letter from Veterinary-Captain Larnder, whose regiment had been removed to Exeter, resigning his membership. The resignation was accepted, and the Secretary was directed to express the hope that in the event of his returning to the district he would rejoin.

Next Meeting.

Mr. W. M. Reeman proposed that the next place of meeting be Colchester, and he suggested that the next summer meeting be held at Yarmouth.

Mr. Taylor, who seconded, said it was only fair the Essex members should have a chance of attending, several of them having complained that the meetings were held too far away. No meeting had been held at Colchester for four years.

There was no other nomination, and the resolution was carried.

The President suggested that at the next meeting the question of holding the annual meeting at Norwich should be discussed.

The Sanitary Institute.

The President said that he had been asked to represent the Society at the Sanitary Institute, but permission was kindly given him if anything prevented him going to find a substitute. He was prevented going, but the Hon. Sec. kindly consented to attend in his place.

Mr. H. P. Standley (hon. sec.) read a report of the proceedings at the Congress.

Mr. J. D. Overed proposed a vote of thanks of Secretary, and moved that his report be placed on record.

Mr. Shipley seconded, and urged the importance of their being represented at all such conferences.

The resolution was carried, and the Hon. Sec. briefly replied.

Mr. Shipley urged that the full record of the proceedings should be preserved. They already had some of the reports of similar Congresses and they were of great interest to the profession. There was no reason why they should not gradually form a good library available for members. It was as important that the Society should have a good collection of books as a collection of instruments.

The Hon. Sec. said he would give this matter his attention.

(To be continued)

ANTHRAX AT REEDHAM.

Farmer Heavily Fined.

At Blofield Petty Sessions recently, before Messrs. E. Gilbert (Chairman), W. J. O. Holmes, and A. C. Fellowes. Benjamin Sutton, farmer and dealer of Freethorpe, was summoned for having in his possession at Reedham, two bullocks diseased with or suspected of anthrax, and failing to report the same, on July 5th. Mr. Freeman Barrett appeared in support of the information, and Mr. Keefe defended.

Mr. Freeman Barrett briefly opened the case, and said if the charge was proved the magistrate would find that it was a serious one. The utmost care was required in the disposal of the diseased carcases of animals, and special orders were issued by the Board of Agriculture. This case was brought forward under the Anthrax Order of 1899. The point for the magistrates to consider was not if the animals had anthrax or not, but did Mr. Sutton suspect the disease.

Superintendent Benjamin Lowe, of Acle, said he had investigated the suspected case of anthrax. Mr. Shipley communicated with him on July 9th, and the same evening went and saw Mr. Barr. He was not able from the conversation to ascertain to whom the animals belonged. He failed to ascertain how many bullocks had been affected. Next morning it occurred to him that the suspected anthrax might be amongst Mr. Sutton's stock, although up to then no communication had been made to the police. He asked Sutton if he had lost any bullocks of late, and he replied, "Yes, but first of all I want to know where I am." Witness informed him that he was an inspector of the local authority, and from information received, apparently anthrax existed somewhere in the neighbourhood. Sutton said, "I had about thirty bullocks on the marshes. They have not done very well lately. On the 25th of June one died on the marshes, and was brought to Freethorpe and buried." On the 4th July, he understood, four others were driven from the marshes to Freethorpe, as they were ill, and witness understood Sutton to say that two of them died.

On the 7th another bullock died on the marshes. This was brought home and buried at Freethorpe. Sutton further said he had sent a sample of cake away for analysis. Sutton was asked if he suspected anthrax, and his reply was, "No, if I had done so I should have reported it to the local authority." When asked if he knew that Barr had reported to the Board that he suspected anthrax, Sutton said, "No, I can't understand it." On the 9th of July Mr. Barr said, in the presence of witness and Mr. Shipley, that he refused to give any information whatever, as the Board had treated him so shabbily. On the 10th of July witness went with Shipley and Barr to the marshes, and saw eight bullocks. The other sixteen had been sent away in the course of business.

Mr. Thomas Kenyon, one of the permanent staff at the Board of Agriculture, produced a post-card, signed by Mr. Barr, and dated July 5th.

Mr. Keefe: I shall object.

Witness, continuing, said the words "Animal suspected, died from anthrax," were on the post-card. Communications were sent to Mr. Barr, but, subsequently, he refused to assist the Board as he considered he was treated badly by the Board during the outbreak of foot-and-mouth disease.

By Mr. Keefe: A portion of the spleen was received, but he could not say the date. The first communication to the Norfolk County Council was July 8th. The spleen was so decomposed that it could not be examined.

By Mr. Barrett: When decomposition had set in the germs were destroyed.

Mr. Shipley, veterinary surgeon, of Yarmouth, said early in July, in consequence of a communication, he went to Acle, and saw Mr. Barr, but could get no information from him concerning the ownership of the bullocks, nor of the disease. On July 11th he went to the slaughterhouse, and saw two bullocks which were getting well.

Were they healthy: They were well within two or three days.

They were so far recovered that you could not say what had been the matter with them?—That is so.

Anthrax is a serious disease?—It is, and very dangerous to the life of animal and of man; 90 per cent of animals die of it when they are attacked.

By the Chairman. Had the animals suffered from anthrax?—I can't say.

Witness added that it was extremely dangerous to cut the throats of the animals when in the field. In his opinion such a course might result in a further spread of the disease in the country.

By Mr. Keefe: He had assented to the removal of animals on and off the premises since he had made his declaration, but since then the place had been cleansed. He saw the beasts that had been ill, but took no blood from them, as they were recovering.

Were you able to tell if they had had anthrax?—No.

Why didn't you examine them?—I did.

How?—I took their temperature; they were feeding, and were healthy. If there had been a temperature I should have gone on further.

To Mr. Barrett: He had had a strong suspicion of anthrax, and in consequence notified the district as infected. He heard that one of the animals had been buried in lime.

A marshman named Burgess, employed by Sutton, said on June 25th the bullock was found dead. Its throat was cut, and the carcase was taken home. Later on four bullocks were removed, and on the 7th of July another animal died, and was sent home. The blood on the marsh was covered with soil.

To Mr. Keefe: The animal that died in the first instance was the "King beast," an animal which was the master of the herd, and would be the first to take the cake.

When the bullock was ill, what do you think was the matter with him?—We thought he had hurt himself, and also that he had taken too much cake.

By Mr. Barrett.—He had had 30 years' experience, and it was the first animal he had known to die from eating cake.

Mr. Keefe said there was absolutely an absence of evidence that anthrax did exist. It was thought by the prosecution that Mr. Barr had a grievance against the Board of Agriculture, and it did seem that these proceedings might have been instituted because of that grievance. Strange to say, no proceedings were taken in respect of the first bullock. It could not have been a case of anthrax. The marshman's dog had licked the blood, and the offal had been given to the pigs. In respect to the other two beasts there was not the slightest suspicion of anthrax.

Mr. Benjamin Sutton, farmer and dealer, of Freethorpe, said at the end of June he had in his possession a large number of cattle, and from week to week was in the habit of buying cattle. At the end of June Burgess told him that the animal was ill, and he sent the float so that it might be brought home alive. The animal died in the meantime. The carcase was buried, and the offal given to the pigs. A week later he noticed some more bullocks were ill. He thought it was the cake, and he told Burgess to drive the bullocks up. He also obtained a sample of cake, and had it analysed. One of the animals died later. It was dressed in the ordinary way, and when Mr. Barr came the offal, including the spleen, was lying in the slaughterhouse. Some of the other animals were slaughtered, and they were sound. He reserved some land for the purpose of burying carcases. Sixteen of the animals out of the thirty on the marshes were slaughtered, and sent to London in the usual way. He had had previous experience of anthrax. He attributed the illness to the cotton cake. They had been on the cake for a few days only, and he had known the animals to suffer when first put on the cake. Mr. Barr made no communication about anthrax to him.

By Mr. Barrett—He maintained seriously that the bullocks died from cotton cake. He suggested that the portion of spleen that Mr. Barr sent to London was healthy. Anthrax particularly affected the spleen. On July 8th, after several visits to the slaughterhouse and marshes, Barr said he had a shred of suspicion that it was anthrax, but he was fully convinced then that it was not. There was one animal buried before it was dressed. The analyst said the cake might cause serious indigestion trouble.

Mr. John Barr, veterinary surgeon, of Acle, said on July 5th he met Sutton at Thorpe Station, and in consequence of what he said he visited the slaughterhouse at Freethorpe. He saw a carcase dressed, and the offal lying on the floor.

Were you told how the bullock met its death?—It died.

Did Mr. Sutton make any suggestion about the cause of death?—He said he suspected the cake.

Did you examine the offal?—I did. I made no post-mortem examination, as was suggested by Mr. Barrett. The animal was already slaughtered. The only malady he could detect was congestion of a small bowel. He examined the spleen.

Was it enlarged?—No, it was not.

Comparing it with the healthy spleen, what was the difference?—Of a slightly more pulpy condition.

Up to this point you found nothing to account for death?—Nothing whatever.

Having examined the spleen, what did you do with it?—I had the possibility in view that it was anthrax, and, as I could not form an opinion, I sent it to London. On June 27th he again went to Sutton's marshes, and examined bullocks which he saw there. Later he went to the slaughterhouse and examined five carcases which

were hanging up. This examination was useful to him, as the animals had been with those that had died.

After examination, what was your opinion on the point of anthrax?—No anthrax.

Did you then express an opinion to Mr. Sutton?—Yes; I told him that I had had a slight suspicion of anthrax, but the examination of the five carcases had fully decided me that there was not.

Had you previous to that told Mr. Sutton of anthrax?—No, I did not think it was necessary to do so. I told him on the Saturday I thought it might be due to the cake.

By Mr. Barrett—On the Tuesday morning the Board of Agriculture communicated with him by telegram that suspicion of disease should be communicated with the police. The spleen was healthy, but yet he sent it to the Board of Trade, and suspected anthrax.

And you can't tell me why you suspected anthrax?—Only as an inquiry.

Did you suspect the cotton cake?—Yes, I did.

Did you suspect poisonous plants?—Yes.

Did you inform your client?—No.

In view of your postcard and your wire, are you not fully convinced that the animal was suffering from anthrax?—No.

Do you believe the animal died from cotton cake?—Yes.

James Farrow said he cut one of the bullock's throats, and shortly afterwards his dog licked the blood. The dog was quite well now.

After a lengthy private consultation, the magistrates decided to convict, and imposed a fine of £15, and costs, or two months. The magistrates thought that the mere fact of losing bullocks in that way was enough to make the defendant suspect that there was something wrong. —*Eastern Daily Press.*

DISEASES OF ANIMALS ACTS 1894 & 1896.

SUMMARY OF RETURNS, WEEK ENDING JANUARY 17, 1903.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders (including Farcy)		Rabies.		Swine Fever.	
	Outbreaks.	Animals Attacked.	Outbreaks.	Animals Attacked.	Outbreaks.	Animals Attacked.	Cases Confirmed. Dogs.	Cases Confirmed. Other Animals	Outbreaks.	Slaughtered as Diseased or Exposed to Infection
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Week ended January 17th, 1903 ..	11	12	..	..	16	38	..	..	23	125
Corresponding week in 1902 ..	17	22	..	..	27	40	..	..	35	224
Corresponding week in 1901 ..	7	9	..	..	22	52	..	..	28	136
Corresponding week in 1900 ..	12	18	..	..	16	20	..	..	26	280
Total for three weeks, 1903, ...	40	54	..	..	57	110	..	..	95	534
Corresponding period in 1902 ..	49	67	..	..	73	150	1	..	118	881
Corresponding period in 1901 ..	31	42	..	..	68	145	..	1	99	513
Corresponding period in 1900 ..	24	42	..	..	55	95	..	..	96	1185

NOTE.—The figures for the Current Year are approximate only.

Board of Agriculture, January 20, 1903.

CORRESPONDENCE.

INTERMITTENT ROARING.

Sir,

I recently had a case of this interesting malady. On December 30th last I examined a chestnut gelding, four years old, and after a good trial for his wind (a gallop in Rotten Row) was of opinion he was quite sound in that respect, although he had recently been ill and had evidence of blisters on his sides. He was taken home, I believe the following day, and kept in the stable for three days, as the weather was very wet. He was driven in double harness on January 5th, and the coachman heard a noise (roaring). He then tried him in single harness and found he made more noise. He came to me on Wednesday, the 7th January, and told his experience, and also informed me the horse had lost all courage. I naturally concluded he was ill again and arranged to go the following day to see him. I did so and found him feeding well and temperature normal. I tried him in double harness and he certainly made a noise. I was then suspicious he made the noise in harness and not when ridden, so had the saddle on and gave him a smart gallop in adjoining meadow. I must say the roaring was very much less, and only perceptible for a second or so after pulling up.

I examined the horse again on January 17th. This time in single harness, and after a severe trial not a sound could be heard. He was further tried a day or two after on the same ground as before, when he made no noise and nothing could be heard.

"PUZZLED."

HÆMOGLOBINURIA PAROXYSMAL. (AZOTURIA).

Sir,

In reference to the use of diuretics in the treatment of the above disease as mentioned in an article in last week's issue of *The Veterinary Record*, one must not forget the fact that during the severe rigours and paroxysms the kidneys are in a state of acute congestion, due probably to an influence transmitted from the diges-

tive tract to their vaso-motor nerves. Moreover in most cases which have come under my notice these organs *per se* perform their functions well, and together with the skin sympathetically do their utmost to get rid of the effete material, plain and simple nature's efforts. From the somewhat obscure nature of the malady and the diverse opinion regarding its pathology, in treatment one must be guided a good deal by his own judgment and by the stage of the disease. The bowels and skin must be kept active, the former by mild agents, and copious warm demulcent drinks. I prefer thin linseed gruel, to which is added a little quinine. The skin must be kept operating by thick folds of flannel wrung out of hot water, and extending from the middle dorsal region right along over the loins, and which must also encircle the abdominal region, the whole to be carefully and securely covered over with mackintosh or sound waterproof. The freer and more plentiful the excretions the greater the chance of recovery. In the more mild cases which do recover after the acute stages the treatment is on restorative lines and moderate in quantities.

R. O. F.

Veterinary Societies—Addresses.

BOMBAY V.M.A.
Pres Major Jas. Mills, M.R.C.V.S.
Vice-Pres: Vety.-Lieut. F. S. H. Baldrey, M.R.C.V.S. A.V.D.
N. D. Dhakmarvala, Esq., G.B.V.C.
S. N. R Ranina, Esq., G.B.V.C.
N. Narsingrao, Esq., G.B.V.C.
Hon. Sec. & Treas: V. E. Vakharia, Esq., G.B.V.C.

BORDER COUNTIES V.M.S.
Pres: Mr. J. W. Hewson, M.R.C.V.S., Wigton
Hon. Sec. (pro tem.): Mr. F. W. Garnett, M.R.C.V.S., Dalegarth, Windermere
Meetings, Second Friday of Feb., June, and October

CENTRAL V.M.S.
Pres. Mr. W. Perryman, M.R.C.V.S., 139 Fentiman-road, S.W.
Hon. Sec: Mr. E. Lionel Stroud, F.R.C.V.S., 29 Spring-st., Hyde Park, W.
Meetings, First Thursday in each month, except August and September, 10 Red Lion Square. Holborn, at 7 p.m.

CENTRAL V.A. OF IRELAND.
Pres. Mr. W. A. Byrne, M.R.C.V.S., Roscommon
Hon. Sec: Mr. J. J. Vahey, M.R.C.V.S., Ballinrobe
Treas: Mr. J. F. Healey, M.R.C.V.S., Midleton

EASTERN COUNTIES V.M.A.
Pres: Mr. John Pollock, F.R.C.V.S., Chapel Field-rd, Norwich
Hon. Sec.: Mr. H. P. Standley, M.R.C.V.S. Wymondham
Meetings, Second Tuesday, Feb. and July

GLASGOW V.M.S.
Pres. Principal McCall.
Hon. Sec. Mr. John P. Small.

VET. MED. ASSN. OF IRELAND.
Pres: Mr. Chas. Allen, F.R.C.V.S., 35 North Frederick st., Dublin
Hon. Sec. Mr. J. McKenny, M.R.C.V.S. 116 Stephens-green-west, Dublin

LANCASHIRE V.M.A.
Pres: Mr. R. Hughes, F.R.C.V.S., Oswestry
Hon. Sec.: Mr. G. H. Locke, M.R.C.V.S. Grosvenor-street, Manchester
Meetings, 1st Thursday in April, June, Sept., & Dec.

LINCOLNSHIRE V.M.S.
Pres. Mr. E. C. Russell, M.R.C.V.S., Grantham
Hon. Sec: Mr. T. Turner, M.R.C.V.S., Sleaford
Treas: Mr. E. C. Russell, M.R.C.V.S., Grantham
Meetings, Second Thursday, Feb., June and October

MIDLAND COUNTIES V.M.A.
Pres: Mr. Thomas Chambers, M.R.C.V.S., Wolverhampton-st, Dudley
Hon. Sec: Mr. H. J. Dawes, F.R.C.V.S., Camden House, High St., West Bromwich
Meetings, Second Tuesday, Wednesday, Thursday, and Friday alternately in Feb., May, Aug. and Nov.

NATIONAL VET. ASSOCIATION.
Pres: Mr. Frank W. Garnett, M.R.C.V.S., Windermere
Sec: Mr. William Hunting, F.R.C.V.S.
Treas: Mr. F. W. Wragg, F.R.C.V.S., Whitechapel, London.

NATIONAL VETERINARY BENEVOLENT & MUTUAL DEFENCE SOCIETY.
Pres: Mr. Geo. Morgan, F.R.C.V.S., 95 Stanhope-st. Liverpool
Treas: Mr. E. Faulkner, F.R.C.V.S., Manchester
Hon. Sec: Mr. Sam. Locke, M.R.C.V.S. Grosvenor Street, Oxford-st., Manchester

NEW SOUTH WALES V.M.A.
Pres: Mr. John Stewart, H. AND A.S.
Vice: Mr. John Pottie, H. and A.S.
Hon. Sec. & Treas: Mr. J. D. Stewart, M.R.C.V.S.

NORTH OF ENGLAND V.M.A.
Pres: Mr. J. Gofton, M.R.C.V.S., 21 Cleveland-rd, N. Shields
Hon. Sec: Mr. E. R. Gibson, M.R.C.V.S. 25 Marlborough-street, Seaham Harbour
Meetings, Third Friday, Feb., May, Aug. and Nov.

NORTH OF SCOTLAND V.M.S.
Pres: Mr. J. McLauchlan Young, F.R.C.V.S., Univ. Aberdeen
Sec. & Treas: Mr. Clement Baxter, M.R.C.V.S., Elgin

NORTH WALES V.M.A.
Pres: Mr. Wynne Williams, M.R.C.V.S., Dolgelly
Hon. Sec. O. Trevor Williams, M.R.C.V.S., Llangefni
Meetings, First Tuesday, March and September

ONTARIO V.A.
Pres: Mr. G. L. Robson.
Sec: Mr. C. H. Sweetapple, Toronto.

ROYAL COUNTIES V.M.A.
Pres: Mr. J. Sutcliffe Hurndall, M.R.C.V.S., Sussex Villas, Kensington
Hon. Sec: Mr. Percy J. Simpson, M.R.C.V.S., Maidenhead
Meetings, Last Friday, Feb., June and Nov.

ROYAL SCOTTISH V.S.
Pres: Mr. Reid, M.R.C.V.S., Auchtermuchty.
Hon. Sec: Mr. W. D. Fairbairn, M.R.C.V.S., Cupar, Fifeshire

ROYAL VETERINARY COLLEGE M.A.
Pres: Prof. Woodruff
Hon. Sec: Mr. W. H. Chase, M.R.C.V.S.
Assist. H.S. Mr. Guy Sutton

SCOTTISH METROPOLITAN V.M.S.
Pres: Mr. John Storie, M.R.C.V.S., East Linton
Hon. Sec: Mr. John Aitken, Junr., M.R.C.V.S., Dalkeith

SOUTH DURHAM AND NORTH YORKSHIRE V.M.A.
Pres.: Mr. E. H. Pratt, M.R.C.V.S., Northallerton
Hon. Sec: Mr. W. Awde, F.R.C.V.S., Stockton-on-Tees.
Meetings, First Friday, Mar., June, Sept. and Dec.

SOUTHERN COUNTIES V.M.S.
Pres: Mr. E. R. Harding, M.R.C.V.S, Fisherton st, Salisbury
Hon. Sec: Mr. F. Spencer, M.R.C.V.S., Basingstoke, Hants
Meetings, Last Thursday, Mar., June and Sept.

SOUTH WALES AND MONMOUTHSHIRE V.M.A.
Pres: Mr. E. Sayer, M.R.C.V.S., Newport, Mon.
Hon Sec. Mr. D. G. Davies, M.R.C.V.S., High-st, Swansea
Treas. Mr. E. Sayer, M.R.C.V.S., Newport, Mon.
Meetings First Thursday in March, and Autumn.

WESTERN COUNTIES V.M.A.
Pres: Mr. W. Roach, F.R.C.V.S., York-rd, Exeter
Hon. Sec: Mr. W. Ascott, M.R.C.V.S., Bideford
Treas: Mr. P. G. Bond, M.R.C.V.S., Plymouth
Meetings, Third Thursday, March, July and November

WEST OF SCOTLAND V.M.A.
Pres: Dr. James McIntosh McCall, Vety. Coll. Glasgow
Hon. Sec: & Treas: Mr. J. Bishop, M.R.C.V.S., 754 Garscube Road, Glasgow

YORKSHIRE V.M.A
Pres: Mr. A. C. Thompson. M.R.C.V.S., Doncaster
Treas: Mr. J. E. Scriven, M.R.C.V.S., Tadcaster
Hon. Sec; Mr. H G. Bowes, M.R.C.V.S., 6 De Grey-ter. Leeds
Meetings, Last Friday in Jan., April, and October, and 2nd Thursday in July.